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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR        | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------------|---------------------|------------------|
| 09/942,926  | 08/31/2001  | George Malcolm Swift Joynes | 3036/50371          | 8942             |
| 7590  | 10/17/2003  |                             | EXAMINER            |                  |
| CROWELL & MORING, L.L.P.<br>P.O. Box 14300<br>Washington, DC 20044-4300 |             |                             | JACKSON, ANDRE K    |                  |
|   |             |                             | ART UNIT            | PAPER NUMBER     |
|   |             |                             | 2856                |                  |
| DATE MAILED: 10/17/2003   |             |                             |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                     |                              |  |
|------------------------------|-------------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | <b>Applicant No.</b>                | <b>Applicant(s)</b>          |  |
|                              | 09/942,926                          | JOYNES, GEORGE MALCOLM SWIFT |  |
|                              | <b>Examiner</b><br>André K. Jackson | <b>Art Unit</b><br>2856      |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 August 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5,7-10,13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5,7-10,13 and 15-17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the comparator must be shown or the feature canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3,7,8,13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiewit.

Regarding claim 1, Kiewit discloses in "Sprinkler alarm" which senses vibrations induced in a fluid system (56); segments the sensed vibrations into two spectral frequencies (58 processing unit) and compares

the amplitudes of the frequencies with predetermined leak condition (Abstract, Column 5, Column 3 and Column 2).

Regarding claim 2, Kiewit discloses where attaching a sensor to the fluid system to obtain data indicative of fluid flow (Figure 1).

Regarding claim 3, Kiewit discloses where the sensor is known to include a piezo-electric material (Column 2).

Regarding claim 7, Kiewit discloses sensing vibrations induced in a fluid system (56); segmenting the sensed vibrations into two spectral frequencies (58 processing unit) and a comparator (58 processor) for comparing the amplitudes of the frequencies with predetermined values to determine a leak condition (Abstract, Column 5, Column 3 and Column 2).

Regarding claim 8, Kiewit discloses where the sensor is known to include a piezo-electric material (Column 2).

Regarding claim 13, Kiewit discloses one sensor mounted on the exterior of a pipe (Figure 1) for sensing vibrations induced by fluid flow in the pipe and providing an output of indicative of the vibrations (Columns 3 and 4); segmenting the sensed vibrations into two spectral frequencies (58 processing unit) and a comparator (58 processor) for comparing the amplitudes of the frequencies with predetermined values to determine the presence of a leak (Abstract, Column 5, Column 3 and Column 2).

Regarding claim 15, Kiewit discloses where the sensor is known to include a piezo-electric material (Column 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5,10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiewit in view of Roy (GB 2335041).

Regarding claim 5, Kiewit does not disclose whether the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses "Detecting leaks in pipes" which has a sensor, which is a hydrophone (26). Therefore, to modify Kiewit to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of the invention as taught by Roy since the use of various acoustic devices is well known in the art.

Regarding claim 10, Kiewit does not disclose where the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses a sensor, which is a hydrophone (26). Therefore, to modify Kiewit to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of the invention as taught by Roy since the use of various acoustic devices is well known in the art.

Regarding claim 17, Kiewit does not disclose whether the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses a sensor, which is a hydrophone (26). Therefore, to modify Kiewit to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of the invention as taught by Roy since the use of various acoustic devices is well known in the art.

6. Claims 4,9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiewit in view of Braathen et al.

Regarding claim 4, Kiewit does not disclose a sensor that includes a PVDF film. However, Braathen et al. disclose a "Digital speed determination in ultrasonic flow measurements" which has a sensor that includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kiewit to include a sensor that includes a PVDF film as taught by Braathen et al. since using the film makes for an easier application to the pipe.

Regarding claim 9, Kiewit does not disclose a sensor that includes a PVDF film. However, Braathen et al. disclose a sensor that includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kiewit to include where a sensor includes a PVDF film as taught by

Braathen et al. since using the film makes for an easier application to the pipe.

Regarding claim 16, Kiewit does not disclose a sensor that includes a PVDF film. However, Braathen et al. disclose a sensor that includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kiewit to include where a sensor includes a PVDF film as taught by Braathen et al. since using the film makes for an easier application to the pipe.

***Response to Arguments***

7. Applicant's arguments filed 08/05/03 have been fully considered but they are not persuasive.
  
8. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to André K. Jackson whose telephone number is (703) 305-1522. The examiner can normally be reached on Mon.-Thurs. 7AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A.J. C. J.  
October 6, 2003

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
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